



Level 1	Principles of Applied Engineering Computer Aided Drafting and Manufacturing (TBD) Introduction to Engineering Design (PLTW) Engineering Essentials (PLTW) Manufacturing Engineering Technology I
Level 2	
Level 3	Engineering and Design and Development (PLTW) Engineering Design and Presentation I Computer Integrated Manufacturing (PLTW) Aerospace Engineering (PLTW) Digital Electronics Civil Engineering and Architecture (PLTW) Engineering Science Environmental Sustainability (PLTW)
Level 4	Engineering Design and Problem Solving Engineering Design and Presentation II Practicum in STEM Scientific Research and Design

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
Autodesk Certified Professional or User (ACU)-Inventor	Engineer, Professional	Electrical and Electronics Engineering	Electrical and Electronics Engineering	Electrical and Electronics Engineering
Certified SolidWorks Associate (CSWA)	Fluid Power Systems Designer	Drafting and Design Technology/Technician, General	CAD/CADD Drafting and/or Design Technology/Technician	Mechanical Engineering
Certified Engineering Technician-Audio Systems	Certified Biomedical Auditor	Engineering Technology	Bioengineering and Biomedical Engineering	Bioengineering and Biomedical Engineering
	Certified Cost Estimator/Analyst		Construction Engineering Technology/Technician	

Occupations	Median Wage	Annual Openings	% Growth
Aerospace Engineers	\$110,843	481	9%
Industrial Engineers	\$97,074	1,263	10%
Mechanical Engineers	\$91,107	1,535	11%
Chemical Engineers	\$112,819	474	9%
Electrical Engineers	\$98,405	1,137	10%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES	
Exploration Activities:	Work Based Learning Activities:
Participate in competitions like Skills USA	Engineering internship Job shadow a machinist

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit TXCTE.org.

The Engineering program of study focuses on the design, development, and use of engines, machines, and structures. CTE learners will learn how to apply science, mathematical methods, and empirical evidence to the innovation, design, construction, operation, and maintenance of different manufacturing systems.



The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Successful completion of the Engineering program of study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met. Revised - July 2020



COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
Principles of Applied Engineering	13036200 (1 credit)	None	9-10
Computer Aided Drafting for Manufacturing (TBD)	TBD	TBD	TBD
Introduction to Engineering Design (PLTW)	N1303742 (1 credit)	None	9-12
Engineering Essentials (PLTW)	N1303760 (1 credit)	None	9-10
Manufacturing Engineering Technology I	13032900 (1 credit)	None	10-12
Engineering Design and Development (PTLW)	N1303749 (1 credit)	None	9-12
Engineering Design and Presentation I	13036500 (1 credit)	PREQ: Algebra I	10-12
Computer Integrated Manufacturing (PLTW)	N1303748 (1 credit)	None	9-12
Aerospace Engineering (PLTW)	N1303745 (1 credit)	None	9-12
Digital Electronics	13037600 (1 credit)	PREQ: Algebra I and Geometry	10-12
Civil Engineering & Architecture (PLTW)	N1303747 (1 credit)	None	9-12
Engineering Science	13037500 (1 credit)	PREQ: Algebra I and Biology Chemistry, Integrated Physics, and Chemistry (IPC), or Physics	10-12
Environmental Sustainability (PLTW)	N1303746 (1 credit)	None	9-12
Engineering Design & Problem Solving	13037300 (1 credit)	PREQ: Algebra I and Geometry	11-12
Engineering Design and Presentation II	13036600 (2 credits)	PREQ: Algebra I and Geometry	11-12
Practicum in Science, Technology, Engineering, and Mathematics	13037400 (2 credits) 13037405 (3 credits) 13037410 (2 credits) 13037415 (2 credits)	PREQ: Algebra I and Geometry	12
Scientific Research & Design	13037200 (1 credit)	PREQ: Biology, Chemistry, Integrated Physics, and Chemistry (IPC), or Physics	11-12

FOR ADDITIONAL INFORMATION ON THE SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS CAREER CLUSTER, PLEASE CONTACT:

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<https://tea.texas.gov/cte>